

REMARKS

This communication is in response to the first Office Action dated July 13, 2005. In that Office Action, the Examiner rejected Claims 1-11 as being obvious in view of U.S. Patent Publication No. 2003/0122653 to Dimmer. The Examiner also rejected Claims 12-13 as being obvious in view of Dimmer in combination with U.S. Patent No. 5,057,095 to Fabian.

The primary reference used by the Examiner, the Dimmer reference, is a reference that was and is commonly owned with the present application by Calypso Medical Technologies, Inc. Thus, applicant's attorney is very familiar with the cited reference insofar as the same attorney of record prosecutes that application as well. To the extent that the undersigned can perhaps clarify the distinctions between the present claimed invention and the cited reference, this paper will do so.

In particular, the present claimed invention is an improvement of the cited reference and in fact substantially builds upon that work. In particular, each of the claims of the present invention requires that the excitation frequency be varied in some manner in order to obtain optimal results. This teaching is not shown in the cited reference, and indeed, this teaching was not developed until after the filing of the cited reference.

The Examiner cites paragraph 39 of the cited reference to argue that the exciting pulses are provided in a non-periodic manner. In particular, the Examiner argues that the "increasing/decreasing current ramp" of exciting pulses in the cited reference would have been equivalent to introduction of a pseudo-random dither into the exciting pulses. This is simply technically incorrect.

Paragraph 39 of the cited reference merely indicates that a switching network is used to control the excitations of various inductor coils. It also indicates that by monitoring the current flow, this is indicative of an increasing or decreasing current ramp, i.e., the polarity of the current; in other words, whether the current is flowing into the coil or out of

the coil can be monitored. However, there is absolutely no indication that the **frequency** at which the switches of the switching network operate can be purposefully varied in a non-periodic manner.

Specifically, in paragraph 29 of Dimmer, the pulsed source generator 18 generates a signal at a selected frequency (typically the resonant frequency of the marker). There is no indication of any variation in the frequency. In point of fact, the frequency of excitation as contemplated in Dimmer is constant, and is selected to be at or near the resonant frequency. There is absolutely no indication that the excitation frequency should dithered be in a non-periodic manner.

The increasing current ramp and decreasing current ramp to which the Examiner refers to is simply the upward going cycle and downward going cycle of an excitation signal. For example, as seen in Figure 5 (see paragraph 89), a voltage diagram (which corresponds to a current flow) shows the pulsed excitation signal. There is a decreasing current ramp 72 shown and an increasing current ramp 70. However, this does not mean that the periodicity of the excitation signal changes. Indeed, as seen in Figure 5, the period of the excitation signal does not vary.

Each of the claims of the present invention include the limitation that the "exciting pulses are emitted in a non-periodic manner." Additionally, other claims include the limitation that the exciting pulses have a random starting polarity or that the exciting pulses start with a phase that is varying. The cited reference does not teach any of these limitations with respect to the exciting pulse. In fact, as detailed above, the cited reference only teaches that the exciting frequency is constant and periodic and has a constant polarity and that its phase is non-varying.

In view of the above amendment, applicant believes the pending application is now in condition for allowance. Applicant believes no fee is due with this response. However, if

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a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 341148023US from which the undersigned is authorized to draw.

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9/13/05

Respectfully submitted,

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